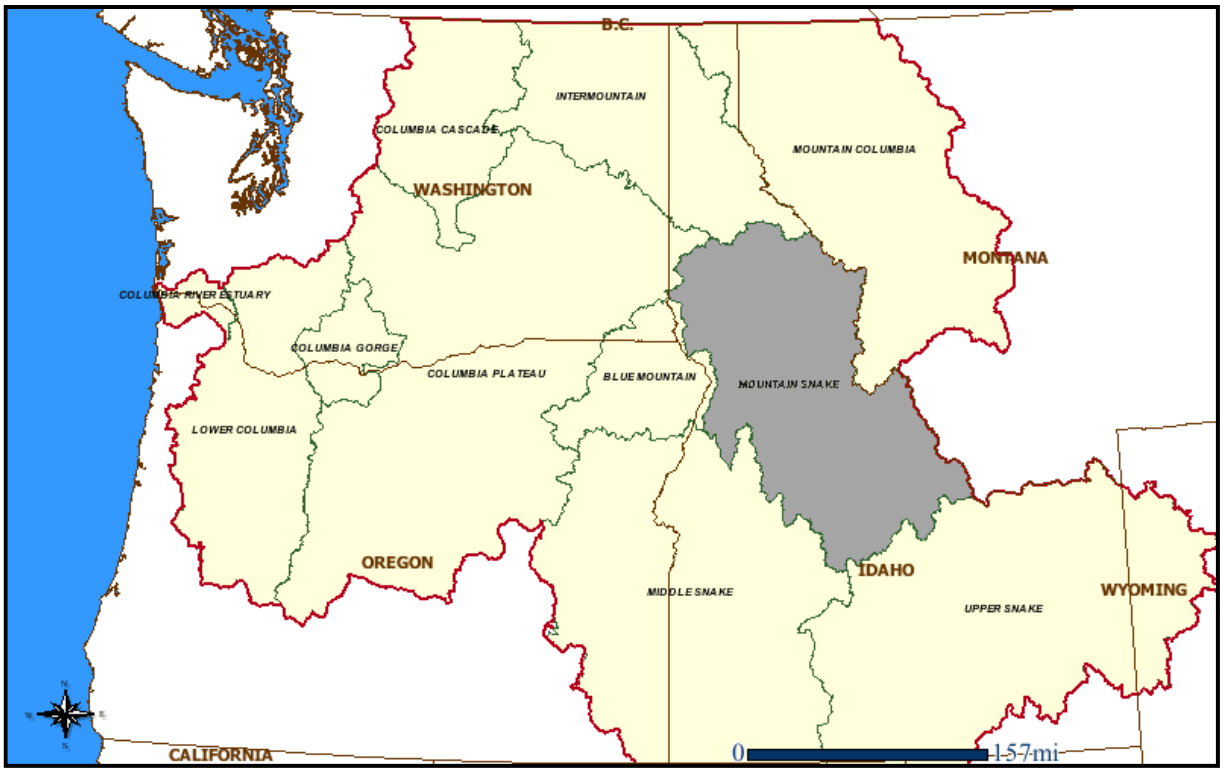
U.S. Fish and Wildlife Service - Pacific Region

Columbia River Basin Hatchery Review Team

Columbia River Basin, Lower Snake Province

Clearwater and Salmon River Watersheds



Dworshak, Kooskia, and Hagerman National Fish Hatcheries

Assessments and Recommendations

Final Report, Appendix C:

Comments on Draft Report and Review Team Responses

June 2009

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Appendix C: Comments on Draft Report and Review Team Responses

Appendix C presents the Team's responses to comments provided by cooperators and the general public. Only comments that required responses from the Review Team are listed in this section. Comments concurring with the Team's recommendations and those addressing information errors in the report are not shown here. Please see Appendix D for the complete text of comments provided to the Review Team**.**

Comanager Comments and Responses

Nez Perce Tribe, Idaho Department of Fish and Game (IDFG), and USFWS Dworshak NFH Complex[1,2]

From the Comments Introduction

1. **Comanager Comment:** This report should focus only on the programs reviewed; there are numerous references to IDFG programs such as Clearwater Hatchery. Clearwater Hatchery is not reviewed in this report and references to it are tangential and confusing to a reader unfamiliar with the basin.

   Review Team Response: *The commenters are correct that Clearwater Fish Hatchery is not a subject of this report, although that hatchery is reviewed in a complementary report by the Review Team on LSRCP hatcheries operated by IDFG. The geographic proximity of Clearwater Fish Hatchery to Dworshak National Fish Hatchery, cooperation between the two facilities for steelhead programs in the Clearwater River, and the collection of steelhead broodstock at Dworshak NFH for Clearwater Fish Hatchery require some cross references in this report to programs at both hatcheries. The Team has edited the report to clarify this distinction and reduce confusion.*

2. **Comanager Comment:** We believe that the selection of a recommended alternative is premature until all the fish production facilities in the Clearwater Basin are reviewed and assessed comprehensively. Until then, the review is basically incomplete and should not be recommending major program changes. Likewise for Hagerman NFH, until the other LSRCP facilities contributing to the program are reviewed, recommending a specific alternative is premature and recommending a major change in a program is presumptive.

[1] *Written comments provided February 2009 by Becky Johnson (Nez Perce Tribe), Sam Sharr (Idaho Dept. of Fish and Game), Larry Peltz (Dworshak NFH Complex), Adam Izbicki (Kooskia NFH, USFWS), and Howard Burge (Idaho Fishery Resource Office. USFWS, Ahsahka, Idaho).*

[2] *Under the terms of the Snake River Basin Adjudication, the Nez Perce Tribe (NPT) will comanage and operate Kooskia NFH and jointly manage Dworshak NFH with the US Fish and Wildlife Service (USFWS). USFWS Dworshak NFH Complex refers to Dworshak NFH, Kooskia NFH, and the Idaho Fishery Resource Office.*

Review Team Response: *As noted above, the Team is also completing a review of LSRCP hatchery programs conducted at facilities operated by IDFG. Team recommendations in the report presented here do consider conclusions and recommendations presented in the complementary LSRCP report. Indeed, the two draft reports have proceeded in an interactive manner because of the need for the two reports to be consistent with each other. The Team expects that recommendations and alternatives contained in the report presented here will not be implemented before operators and comanagers have had the opportunity to consider all recommendations in both reports. The Team acknowledges its role as a science and technical review team and that the comanagers, not the Review Team, will be the decision-makers and implementers of any changes to hatchery programs in the Clearwater Basin. Final drafts of both reports will be released within a few months of one another.*

3. **Comanager Comment:** When the Review Team recommends practices that are on-going at the hatchery it should just **recommend continuing the current practice**, not write the recommendation like it's a change or something new. Then when addressing the recommendations we can just concur, when they are written as if a change or new procedure, we must provide a more thorough explanation (see comments for Recommendation HA18 below) and it appears that the Review Team doesn't understand the program. It would have been good if the Review Team had spent more time with the specific program further along in the review process to avoid confusion over some basic program operations.

   Review Team Response: *The Team has recommended actions when a practice has been recently or inconsistently implemented in order to emphasize the need to incorporate them into regular operating procedures. The Team is aware of no difference in the procedure for continuing to implement a recent operational change or in implementing a new operational change. The Team recognizes that some changes have already been implemented in response to oral reports of this review by the Review Team to the comanagers.*

Dworshak B-run Steelhead

4. **Comanager Comment on Recommendation DW1**: The IDFG, the Nez Perce Tribe, and Dworshak NFH Complex agree that it would be beneficial to update or establish numerical goals for broodstock needs, harvest, and natural spawning escapement in the Clearwater River basin. These types of goals are contained in Table 3, Clearwater Subbasin Management Plan (11/2003) which provides a profile for anadromous adult returns for the Clearwater subbasin.[3] These goals are derived from various management plans as described in Appendix A, Table 8 of this plan and do not imply consensus by all management agencies. Nevertheless, it does provide a reference and a beginning point for managers to consider establishing return goals and to discuss and set goals; i.e., future, existing conditions, long-term return, natural spawning components, hatchery components (broodstock and rack return), and harvest components, and/or other goals each manager may desire. Table 3, Clearwater Subbasin Management Plan (11/2003) provides a profile as proposed by the Nez Perce Tribe for anadromous adult returns for the Clearwater subbasin. These goals are derived from various management plans as described in Appendix A, Table 8 of this plan and do not imply consensus by all management agencies. Nevertheless, it does provide a reference and a

[3] *The Clearwater River Subbasin Plan is available from the Northwest Planning and Conservation Council at: http://www.nwcouncil.org/fw/subbasinplanning/clearwater/plan/*

beginning point for managers to consider establishing return goals and to discuss and set goals; i.e., future, existing conditions, long-term return, natural spawning components, hatchery components (broodstock and rack return), and harvest components, and/or other goals each manager may desire.

Review Team Response: *The Review Team agrees that the Clearwater Subbasin Management Plan provides the comanagers a reference and beginning point for managers to establish common goals for each harvested species (spring and fall Chinook, A-run and B-run steelhead, coho, lamprey and sturgeon) in the Clearwater River Subbasin. In response, the Team has inserted the Subbasin Plan harvest goals for B-run steelhead into the goals statement of the report for the steelhead program at Dworshak NFH. However, those goals are presented basin-wide for each species and are not specific to individual hatchery programs. As a result, the realized benefits of the steelhead program at Dworshak NFH can not be directly assessed relative to those subbasin goals. Program goals with well defined objectives for achieving them should be part of the HGMPs and other planning documents. Proposed time frames for achieving each of those goals should also be stated.*

5. **Comanager Comment on Recommendation DW3:** Logistically operating the ladder continuously from October to May sounds infeasible. Leaving the steelhead in the river for harvest is important to the Tribe because currently a substantial part of our steelhead harvest occurs right near the Dworshak ladder. Currently, we work cooperatively to determine ladder opening and closing for collection of coho and that has worked quite well. Dworshak steelhead are listed, and we do outplant them on purpose for natural spawning in the South Fork drainage. We are not too anxious to change an operation that is working due to an undocumented perceived risk of "straying" into natural spawning areas. The only real issue of concern for us is the fish health risk – which could be resolved with a new pipeline to Dworshak Dam.

   Review Team Response: *A scientific uncertainty (data gap) exists regarding the fate of hatchery-origin steelhead returning to Dworshak NFH but precluded from entering the hatchery. This uncertainty includes the disease risk of adult steelhead remaining in the vicinity of the water supply for the hatchery. As noted by the Nez Perce Tribe, this risk would be reduced substantially with a new water supply and pipeline from Dworshak Reservoir. In the interim, one way to reduce this risk and uncertainty is to leave the ladder open continuously and "surplus" the additional recaptured adults to the Tribe or food banks. Alternatively, a multi-year study via the use of PIT tags and radio tracking can be developed to assess the fate of fish not retained by the hatchery.*

6. **Comanager Comment on Recommendation DW4 [This comment also relates to Recommendation HA3 for Hagerman NFH B-run Steelhead]:** The Nez Perce Tribe supports the recommendation to discontinue stocking of Dworshak B steelhead in the Salmon River basin and the development of a localized "B-run" stock for the upper Salmon River Basin. IDFG also supports developing a localized broodstock for B-run steelhead releases in the upper Salmon River Basin. Historically anglers in the Salmon River fished for B-run fish destined for the South Fork Salmon and the Middle Fork Salmon. To mitigate for lost opportunity with respect to fishing for large 2-ocean B-run steelhead, IDFG is committed to developing a B run hatchery population that is locally adapted to upper Salmon River Basin. The upper salmon River Basin is an area we have designated as suitable for hatchery

mitigation production for harvest because there is little evidence of viable ancestral natural populations remaining there and releases of hatchery produced B-run fish in the area are spatially segregated far upstream of wild stock sanctuaries in the South Fork Salmon and Middle Fork Salmon River. We concur with the Review Team that the existing annual releases of F1 generation smolts from Dworshak Hatchery into the upper Salmon River is not desirable biologically. While moving the B-run releases to an existing hatchery and adult capture facility (e.g. Pahsimeroi Fish Hatchery) to accommodate broodstock management is an option, we believe that installing a permanent adult weir and capture facility on the lower East Fork Salmon is a better option. The option for a weir and trapping facility on the lower East Fork Salmon River could be used to capture broodstock for a segregated locally adapted upper Salmon River B-run [hatchery population], manage hatchery and natural spawning for the existing integrated East Fork Natural A –run population, and exclude A-run fish from the segregated hatchery programs at Sawtooth and Pahsimeroi Fish Hatcheries.

Review Team Response: *The Team concluded that the annual transfer and outplanting of over 300,000 Dworshak B-run steelhead smolts into the lower East Fork Salmon River directly conflicts with the goals of the existing conservation hatchery program to maintain a native population of steelhead in the upper East Fork. The Team agrees that construction of a weir at the lower section of the East Fork as a broodstock collection and smolt release point is an option that would substantially reduce risks to the ESA-listed native population, potentially increase the opportunity for developing a local broodstock, and reduce the risk of maintaining a segregated B-run steelhead mitigation program for harvest. On the other hand, the current outplanting of Dworshak B-run fish into the upper Salmon River has been occurring from LSRCP facilities since the late 1980's, and a timetable for construction of a new weir on the East Fork has not yet been developed. In the interim, the Review Team believes that the continued outplanting of B-run steelhead from Dworshak NFH into the East Fork and other areas of the upper Salmon River should be terminated or moved to a location where returning adult fish can efficiently be recaptured for developing and maintaining a localized broodstock. If this latter option is implemented, then smolt releases and broodstock collection should be at a location that will provide substantially higher smolt-to-adult return rates than occur at the present time from the present release locations (e.g., Squaw Creek). The Team also noted that the current A-run steelhead program in the upper Salmon River was established at Pahsimeroi Hatchery before a similar program was transferred and developed upstream at Sawtooth Hatchery. IDFG reported that B-run steelhead return rates to the upper Salmon River for the progeny of hatchery-origin adults recaptured there for broodstock were approximately 2 to 2.6 times higher than the return rates for Dworshak B-run steelhead outplanted directly from Dworshak NFH (BY2002 and BY2003). These latter results further justify the development of a local, Salmon River broodstock rather than relying on the continued transfer of eggs from Dworshak NFH. [Note: The transfer and release of Dworshak B-run steelhead in the Salmon River is an LSRCP program, not a Dworshak Dam mitigation program.]*

7. **Comanager Comment on Recommendation DW5:** Through time, conversion to localized broodstock for B-run steelhead releases in the upper Salmon River and in the South Fork Clearwater River will result in a need to collect fewer fish for broodstock at the Dworshak facility. Pairwise spawning for Salmon River production should be maintained until conversion to localized broodstock is developed in order to maximize genetic diversity within the pending localized stock.

Review Team Response: *The Team concurs with the comment of the comanagers. From a genetic risk management perspective, there is nothing wrong with the current spawning protocols. The Team concluded, however, that the total number of fish retained for broodstock could be reduced via an alternative spawning protocol with little or no loss of genetic diversity because of the large numbers of adults currently spawned each year.*

8. **Comanager Comment on Recommendation DW6:** The Nez Perce Tribe does not oppose considering this type of evaluation [comparison of gene flow rates between fall and spring-trapped broodstock], however, prior to any implementation that would affect production activities, marking, sampling, etc. we will want to thoroughly discuss and agree upon an approach for this study. In addition, it was our understanding that some evaluation of return timing and spawn timing had already been performed and there was not a correlation between the two. It would be helpful to check with the Dworshak NFH Complex regarding their return timing and spawn timing data. It's our understanding that this has reviewed in the past and there was not a strong correlation between return timing and spawn timing

   Review Team Response: *Steelhead trapped in the fall at Dworshak NFH are only spawned amongst themselves during the first two to three spawn takes the following spring. Similarly, fish trapped during the spring are only spawned amongst themselves in the later spawn takes. In other words, no cross-spawning of fall-trapped and spring-trapped fish occurs. The Team was concerned about the possibility that two distinct "lines" were being developed at Dworshak NFH and wanted to quantify the proportion of fall-trapped fish that are the F1 progeny of adults trapped in the spring one generation earlier, and vice versa. Because progeny of fall-trapped and spring-trapped fish are given different tag codes (CWTs), the Team presumes that the required data already exist and only need to be collated and analyzed to address the specific question of the Team. No additional "studies" are necessary. The Team simply wants the Service to quantify gene flow rates between fall and spring-spawned fish.*

9. **Comanager Comment on Recommendation DW7:** The Nez Perce Tribe would support investigating potential opportunities to establish a naturalized population of North Fork Clearwater steelhead or of incorporating natural origin fish trapped in Clearwater River tributaries into the Dworshak broodstock. However, the Dworshak NFH Complex staff and the Nez Perce Tribe question how would this differ from a locally developed stock, as recommended for the SF Clearwater and Clear Creek (DW9c and DW10c)? Furthermore, how would the Review Team propose to reproduce the unique environmental conditions that developed the NF Clearwater B steelhead or fully reproduce all the selective factors necessary to reproduce or maintain the original genetic structure. We would also question the use of rainbows that have been locked above Dworshak Dam for ~40 years since any sea-run characteristic may be lost. Also, thousands of domestic rainbows from numerous stocks were stocked into the reservoir for a 25 year period. The genetic integrity of the residual rainbow trout may have been compromised. -- In addition, it's important to consider that if tributary specific stocks (SF CLWR, etc.) are going to be developed that actually support supplementation programs and the DNFH on-station production is solely for harvest augmentation then domestication concerns really aren't a concern.

   Review Team Response: *Fishery biologists and geneticists have long recognized that steelhead native to the N.F. Clearwater River represent a genetically unique stock within the Columbia River Basin. Issues DW7 and DW21 recognize that there are domestication*

problems with long-term propagation of fish as closed "segregated" populations in a hatchery environment. The team also recognizes both the unique genetic composition of B-run steelhead propagated at Dworshak NFH and its important contribution to harvest. Goal No. 1 from the Service's (2004) Comprehensive Hatchery Management Plan *(CHMP) for Dworshak NFH says the following: "Conserve and perpetuate the unique North Fork Clearwater River 'B-Run' summer steelhead population." The Team believes that the intent of this goal is to maintain the characteristics of the population native to the N.F. Clearwater River, not develop a "domesticated" hatchery stock. Consequently, the Review Team concluded that continued hatchery propagation of N.F. Clearwater steelhead at Dworshak NFH into the indefinite future would require a naturally-spawning component to maintain the genetic capability to reproduce naturally consistent with the first stated goal of the CHMP. One intent of the Team's recommendation is to highlight a risk and propose a solution for further comanager discussion. One possible approach is to identify existing streams for reintroduction; another possible approach is to develop an artificial spawning channel or "engineered" stream (Brannon 2006) in the immediate vicinity of the hatchery. Although a primary purpose of the steelhead program at Dworshak NFH is to provide fish for harvest to help mitigate for lost habitat upstream of Dworshak Dam, the Review Team also recognizes that the Service has a stewardship responsibility to conserve indigenous fish and wildlife resources. The recommendation in the report has been revised to more accurately reflect the team's intent and comanager concerns.*

10. **Comanager Comment on Recommendation DW8:** It is our understanding that CO_2 is available and is used at Dworshak as an anesthesia already. The Nez Perce Tribe supports investigating alternative anesthetics, however, at the time of spawning fish are really not fit for human consumption.

    Review Team Response: *The Team removed issue DW8 after learning from Service staff that Dworshak NFH does not use MS-222 to anesthetize adult steelhead during spawning.*

11. **Comanager Comment on Recommendation DW9 (now DW8):** (a) The Nez Perce Tribe strongly supports the development of a water supply line from Dworshak Reservoir. (b) The Nez Perce Tribe would also concur with performing an evaluation of rearing constraints and fish health concerns in an effort to produce healthier fish. Dworshak NFH Complex is hesitant to reduce fish production due to impacts to *US v Oregon* and other production agreements. Increasing the nursery rearing space would be costly and is not currently one of the highest priorities for capital improvements. Dworshak production staff will investigate mechanisms to reduce stress without reducing fish production.

    Review Team Response: *(a) The Team notes the support of the Nez Perce Tribe for this proposed improvement to the facility water supply. The proposed water supply line would be similar to what already exists at Clearwater FH. (b) The Team believes that exceeding density guidelines during early rearing is a poor fish culture practice inconsistent with "best management practices". Prioritization of facility improvements includes factors beyond the scope of the Team's review, but the Team believes that such prioritizations should consider fish health guidelines of the Service. .*

12. **Comanager Comment on Recommendation DW11:** The Nez Perce Tribe is not aware of a documented "straying" problem from the releases of steelhead at Kooskia NFH. The tribal fishery on the Middle Fork Clearwater and in Clear Creek is very important to the Nez Perce Tribe. The Nez Perce Tribe supports discussing these recommendations with comanagers, but until an agreement is reached by the comanagers and the U.S. vs. Oregon Parties to change the current program, we are not supportive of implementing these recommendations. Dworshak Complex echoes the concerns of the Nez Perce Tribe.

    Review Team Response: *The Team's recommendations reflect best management practices of developing a locally adapted broodstock; those recommendations are not based on any specific data indicating that straying of adult steelhead from Clear Creek is a problem. However, outplanted fish generally exhibit higher stray rates as returning adults than fish released "on station" at the location where their parents were trapped for broodstock. This general pattern is well-documented in the scientific literature.*[4] *The recommendation to establish a Kooskia NFH broodstock from adults returning to the hatchery is intended to maximize survival and homing fidelity, thereby reducing straying risks. The Team also strongly supports a monitoring and evaluation component that guides management activities. Recommendation DW11 has been revised to more accurately reflect the Team's intent.*

13. **Comanager Comment on Recommendation DW12:** We strongly concur and support the recommendation to develop a gravity-fed water supply pipeline from Dworshak Reservoir. We believe this should be a high priority for the region. It is the key to improved fish production at Dworshak as it results in a cost recovery mechanism that is environmentally and biologically sound. It would also provide all managers with additional management options that are beneficial to the region. [In the interim], The Review Team did not provide logistical/technical recommendations on how to restrict anadromous fish from the area around the intake. We are not convinced that changing ladder operations would be helpful in achieving that goal. This could lead to additional logistical and expense issues that would not help the overall management results. Restricting adult movement in the vicinity of the intakes will lead to confrontation with both non-Indian and Tribal fishers. It will also be expensive and difficult to maintain and to be effective, it might require blocking the North Fork to adults from just above the fish ladder to the face of the dam – several miles of fishing grounds that would affect a majority of non-Indian fishers.

    Review Team Response *(Note: This response applies also to Recommendation DW3)****:*** *The Team appreciates the concern for improved water quantity and quality at Dworshak NFH. In the interim, evaluating ladder operations may lessen the disease risks of adult fish remaining near the hatchery's intake. The current physical location of the hatchery's fish ladder near the water intake to the hatchery clearly poses disease risks to fish reared on station. The staff at the hatchery have taken many creative measures to deal with those risks. In the near term, the Team suggested that leaving the ladder open continuously may further reduce those risks (Recommendation DW3). Another option, which the Team did not discuss, was moving the entrance location of the ladder. All parties agree that replacement of the existing pump station with water supply pipelines from Dworshak Reservoir, similar to those for Clearwater Fish Hatchery, is the most desired solution to reduce fish health risks at Dworshak NFH. The*

[4] *Hatchery Scientific Review Group (HSRG) 2009. Outplanting and net pen release of hatchery-origin fish. White paper No. 7. Available at: http://www.hatcheryreform.us/mfs/reports/system/welcome_show.action*

Team's recommendation has been revised to reflect the importance of monitoring and evaluation to guide hatchery management activities.

14. **Comanager Comment on Recommendation DW23:** The Nez Perce Tribe supports a review of the CWT marking groups as part of a long-term M&E plan referenced in DW21. However, proportionately distributing tags across all raceways does not meet some ongoing M&E objectives/study designs and is not the only way to adequately represent entire population performance.

    Review Team Response: *The recommendation has been revised slightly to recognize that the tagging program at Dworshak NFH is not necessarily incorrect, but that the tagging program - as a best management practice - needs to represent the population being studied consistent with the statistical principles of experimental design.*

15. **Comanager Comment on Recommendation DW24:** Starting with release year 2008 Dworshak NFH put in 20,000 PIT tags for evaluation independent of any outside study, this program is planned to continue into the future. Also in 2008, CSS PIT tagged 8,000 steelhead in addition to the 20,000 we tagged. The CSS study is also planned to continue into the future. The Review Team recommendation should be to continue current PIT tag program for steelhead. The Nez Perce Tribe supports a review of the PIT tag marking groups as part of a long-term M&E plan referenced in DW21. However, proportionately distributing tags across all raceways does not meet some ongoing M&E objectives/study designs and is not the only way to adequately represent entire population performance.

    Review Team Response: *The Team has revised the wording of Issue and Recommendation DW24 in response to this comment.*

16. **Comanager Comment on Recommendation DW25**: The Nez Perce Tribe supports a review of the CWT tag recovery program as part of a long-term M&E plan referenced in DW21. However, intensive/target tag recovery in terminal areas may not be required or support established M&E objectives or routine management decisions. Actual need for such data should be clearly established prior to recommending increasing M&E tag recovery funding requirements.

    Review Team Response: *The Review Team agrees that it is unclear whether current tag recovery efforts support any required or established Dworshak B-run steelhead M&E objectives or lead to any management decision. Clearly articulated M&E goals and objectives should be established prior to applying CWT's and designing sampling protocols in support of those goals and objectives. Comanagers appear to be using CWT's to estimate harvest both within and outside the Snake River Basin for evaluating contributions towards mitigation goals (e.g. LSRCP) and comanager agreements (e.g., US v OR), but it was unclear how the existing sampling rate was meeting those M&E needs. Moreover, the Team could not ascertain how the current M&E CWT program was being used to assess benefits and risks associated with the outplanting of smolts in Clear Creek (see our response to Comanager comment DW12 above) and natural spawning areas of the South Fork Clearwater River (e.g., Newsome Creek, American River). [Note: This specific comment for Dworshak steelhead that*

are outplanted into Clear Creek and the S.F. Clearwater River also applies to spring Chinook adults that are outplanted from Dworshak NFH into natural spawning areas.]

17. **Comanager Comment on Recommendation DW29:** The Nez Perce Tribe would welcome the opportunity to be recognized and to recognize co-managers in a positive and proactive display of signage/logos.

    Review Team Response: *The Team acknowledges that the SRBA Settlement Agreement has defined a new role for the Nez Perce Tribe in the management of Dworshak National Fish Hatchery. The Nez Perce Tribe and other program partners need to be recognized in signage and outreach materials.*

Dworshak NFH Spring Chinook

18. **Comanager Comment on Recommendation DW31:** The IDFG, the Nez Perce Tribe, and Dworshak NFH Complex agree that it would be beneficial to update or establish numerical goals for broodstock needs, harvest, and natural spawning escapement in the Clearwater River basin. These types of goals are contained in latest version of the Clearwater Subbasin Summary and Management Plan (2003), although all comanagers have not specifically agreed with these numbers. Table 3, Clearwater Subbasin Management Plan (11/2003) provides a profile as proposed by the Nez Perce Tribe for anadromous adult returns for the Clearwater subbasin. These goals are derived from various management plans as described in Appendix A, Table 8 of this plan and do not imply consensus by all management agencies. Nevertheless, it does provide a reference and a beginning point for managers to consider establishing return goals and to discuss and set goals; i.e., future, existing conditions, long-term return, natural spawning components, hatchery components (broodstock and rack return), and harvest components, and/or other goals each manager may desire.

    Review Team Response: *See Review Team response to Comanager Comment #4 for Dworshak NFH steelhead. In response to these comments, the Team has inserted the Subbasin Plan harvest goals for spring Chinook into the goals statement of the report for the spring Chinook program at Dworshak NFH.*

19. **Comanager Comment on Recommendation DW33:** The Nez Perce Tribe and Dworshak NFH Complex feel that the 1,200 adult collection goal is a good number for planning purposes – especially for developing harvest plans. It is helpful to have a consistent number to plan for and then make annual adjustments if necessary. Through the Annual Operation Plan, comanagers determine annually what actual broodstock needs are based on run size, environmental conditions, projected returns to other basin facilities, etc. In 2008, comanagers agreed to hold 1,000 fish for broodstock at Dworshak.

    Review Team Response: *The information provided to the Team indicates that 1,200 adults for broodstock substantially exceeds the number of adults needed to meet egg take requirements for this program. An annual broodstock collection goal of 1,000 spring Chinook adults is more consistent with the intended size of the program and the desired number of smolts to be reared and released. The Team urges comanagers to identify the actual number of adults*

required for broodstock based on the most recent levels of pre-spawning mortality and average female fecundity rather than retaining more adults for broodstock than are needed to meet program requirements.

20. **Comanager Comment on Recommendation DW34:** The Nez Perce Tribe does not support this recommendation [eliminating backfilling of broodstock or egg take shortages at Dworshak NFH]. Spring Chinook were extirpated from the Clearwater River by Lewiston Dam. Rapid River stock was used (along with out of basin stocks from the Columbia River) to reintroduce spring Chinook salmon to the Clearwater. The Dworshak spring Chinook program provides a very important "on reservation" mitigation program for the Nez Perce Tribe. Spring Chinook produced at Dworshak are released on station. We do not support a differential marking program or excluding "other stock" adults from the Dworshak broodstock. The Dworshak NFH Complex staff hopes that returns even in low survival periods will be adequate to meet broodstock needs. If the situation arises, it may be possible to "backfill" from Kooskia NFH since these fish are adapted to the Clearwater Drainage and have been mixed with Dworshak fish before.

    Review Team Response: *The Review Team's recommendation to not backfill is consistent with the principles of local adaptation, including managing hatchery populations for maximum viability, smolt-to-adult survival, and homing fidelity. The discontinuation of backfilling is expected to increase long-term benefits while minimizing risks. Backfilling of egg shortages substantially increases straying risks when juvenile fish are released into watersheds different from watersheds to which parental fish homed and returned. Managing programs for local adaptation and maximum viability is expected to meet comanager goals and objectives more often - and in a more sustainable manner - than continued backfilling with out-of-basin populations, even if those source population shares a common historical ancestry with the recipient population. The strategy endorsed by the Team is to manage populations for maximum viability rather than manage facilities for maximum rearing densities. As such, backfilling should only occur as an emergency conservation measure, not as a means to "fill" facilities in response to broodstock shortfalls.*

21. **Comanager Comment on Recommendation DW36:** Dworshak NFH Complex and the Nez Perce Tribe supports investigating alternative anesthetics, however, at the time of spawning fish are really not fit for human consumption. Efforts are currently made to use CO_2 if outplanting or human consumption are potential uses for select groups of fish. Carcasses unfit for human consumption are provided to stream fertilization, and bear and eagle re-habilitation programs.

    Review Team Response: *The Review Team was concerned that the use of MS-222 to anesthetize spring Chinook at Dworshak NFH was potentially limiting the beneficial use of carcasses (e.g., nutrient enhancement of streams). The Team commends the use of CO_2 for groups of fish to be used for such programs. The Review Team further proposes that the Dworshak NFH Hatchery Evaluation Team (HET) research the feasibility of anesthetizing all spring Chinook via electro-anesthesia as an alternative for MS-222 and CO_2. Electro-anesthesiology is successfully used for large broodstock programs at other hatcheries to reduce chemical use, alleviate safety concerns, and to increase the number of carcasses suitable for beneficial uses.*

22. **Comanager Comment on Recommendation DW39:** The Nez Perce Tribe and Dworshak NFH Complex support a review of the PIT tag marking groups as part of a long-term M&E plan referenced in DW21. However, proportionately distributing tags across all raceways does not meet some ongoing M&E objectives/study designs and is not the only way to adequately represent entire population performance. It is important to the Tribe to minimize the amount marking, including PIT tagging, fish are subjected to. As such, much effort is occurring to integrate PIT tagging studies. We object to the establishment of an independent PIT tagging effort. If and when the CSS tagging program ends, LSRCP is committed to a PIT tag program for continued evaluation.

    Review Team Response: *The recommendation has been re-worded to more accurately reflect the Team's intent in response to this comment.*

Kooskia NFH Spring Chinook

23. **Comanager Comment on Recommendation KO1:** The IDFG, the Nez Perce Tribe, and Dworshak NFH Complex agree that it would be beneficial to update or establish numerical goals for broodstock needs, harvest, and natural spawning escapement in the Clearwater River basin. These types of goals are contained in latest version of the Clearwater Subbasin Summary and Management Plan (2003), although all comanagers have not specifically agreed with these numbers. Table 3, Clearwater Subbasin Management Plan (11/2003) provides a profile as proposed by the Nez Perce Tribe for anadromous adult returns for the Clearwater subbasin. These goals are derived from various management plans as described in Appendix A, Table 8 of this plan and do not imply consensus by all management agencies. Nevertheless, it does provide a reference and a beginning point for managers to consider establishing return goals and to discuss and set goals; i.e., future, existing conditions, long-term return, natural spawning components, hatchery components (broodstock and rack return), and harvest components, and/or other goals each manager may desire.

    Review Team Response: *See Review Team response to Comanager Comment #4 for Dworshak NFH steelhead. In response to these comments, the Team has inserted the Subbasin Plan harvest goals for spring Chinook into the goals statement of the report for the spring Chinook program at Kooskia NFH.*

24. **Comanager Comment on Recommendation KO3**: The Nez Perce Tribe, IDFG, and Dworshak NFH Complex are working on developing a broodstock management plan for Kooskia spring Chinook production consistent with the U.S. vs. Oregon Management Agreement (see language below). Kooskia spring Chinook production provides a very important tribal harvest opportunity – at a location with much cultural significance. Over the course of production history at Kooskia Hatchery many different stocks were utilized to initiate the program and have since been infused into the broodstock (including Dworshak and Rapid River). To date, it's our understanding that the adult return data does not show a significant difference between stocks used for production.

    U.S. v. Oregon agreement: "The Nez Perce Tribe, IDFG, and Dworshak NFH Complex have agreed to utilize ISS and other supplementation information to develop an integrated broodstock management guideline to re-implement supplementation in Clear Creek. Planning

will occur in 2008 with broodstock management protocols to be implemented with BY09. Kooskia stock will be utilized for supplementation of Clear Creek. Fish production will be prioritized with the first 50,000 (non ad-clipped) allocated for supplementation of Clear Creek, the next 500,000 (ad-clipped) for fishery purpose. Production in excess of 550,000 will be discussed by the Parties to allocate to supplementation or fisheries. The Parties are working to assess options to increase smolt production from Kooskia Hatchery either through programmatic changes or facility modifications. As a result, the target release number may change during the course of this Agreement. -- The number of non ad-clipped or ad-clipped fish at Kooskia NFH may be greater than 50,000 pending Party discussion on allocation of production greater than 550,000 smolts."

The Nez Perce Tribe does not concur with Recommendation KO3a. We will consider Recommendation KO3b as we work with our comanagers to develop a longer term production program for Kooskia. The Dworshak NFH Complex will work with the Nez Perce Tribe and others to address these issues as they arise.

Review Team Response: *The Team understands the fishery and cultural interests of the Nez Perce Tribe regarding spring Chinook in the Clearwater River, including future opportunities for tribal harvest of spring Chinook. The Team also agrees that the ISS represents the best scientific information concerning possible future supplementation of Clear Creek. However, the language of the U.S. v. Oregon agreement quoted above does not specify a specific goal of supplementation nor preclude broodstock management practices that are expected – in the long run - to maximize the population viability of spring Chinook at Kooskia NFH. The Team believes that hatcheries should be managed with the goal of achieving maximum stock viability, as opposed to maximizing fish production via the potential import of fish or eggs in any given year. The Team nevertheless acknowledges the perspectives of the Nez Perce Tribe regarding Issue and Recommendation KO3.*

25. **Comanager Comment on Recommendation KO06:** Dworshak NFH Complex staff and the Nez Perce Tribe do not feel this [developing more wells at Kooskia NFH] is feasible. Existing wells draw down the water table in dry years and impact neighboring wells. More wells will not solve the problem only exacerbate it. While we have considered further exploration of ground water resources; the history strongly indicates that additional groundwater is not available; i.e., only one of five wells drilled still provides water and yield has declined over time to approximately 300 gallons per minute (gpm).

    Review Team Response: *If additional ground water is not available to provide a cooler water source to operate the adult holding ponds, the Team suggests investigating other options such as heat exchangers, evaporative coolers, chillers, or a combination of processes that would provide sufficiently cooler water to allow holding and spawning of spring Chinook on site. The Team has modified Recommendation KO6 accordingly. Ultimately, the Review Team concluded that the Service and Nez Perce Tribe should consider other species that do not require long term holding of adults during the summer months.*

26. **Comanager Comment on Recommendation KO10:** Dworshak NFH Complex staff have not experienced any problems in recent years which can be attributed to too high a rearing density. Water quality monitoring of reuse system shows good water quality throughout rearing cycle.

The Dworshak NFH Complex and the Nez Perce Tribe will address this issue if it becomes a problem.

Review Team Response: *The Team based its recommendation on best management practices and Service guidelines. These guidelines provide a margin of safety to management of fish health risks. While short-term problems associated with higher densities are more easily identifiable on site, longer term post-release effects can be difficult to detect. Reducing stress and disease risks by maintaining lower densities during all phases of culture provides the greatest opportunity for those fish to survive and contribute to the goals of the program.*

27. **Comanager Comment on Recommendation KO11:** Modifications to the water intake were completed in September 2008. This will address some of the issues. An expanded well field is not an option. Two electrically heated screens would prevent much of the icing problems but no funding exists for this.

    Review Team Response: *The Team was unaware that electrically heated screens were an option being considered to control icing problems. The recommendations have been revised accordingly.*

28. **Comanager Comment on Recommendation KO12:** The screen chamber also acts as a settling basin and then accumulated solids must be discharged back into Clear Creek to keep the system operating properly. This operation does not comply with current NPDES regulations. Major modifications of the screen building are required to comply with NPDES and NOAA Fisheries ESA guidelines. The Dworshak NFH Complex has no funding to address this issue. It may be less expensive to study the impacts; i.e., number of juvenile fish entrained by the current screen to assess the need for screen replacement than to assume a high level of impact and cost. This is a more practical approach to providing the answer to this assuming question.

    Review Team Response: *Compliance with NPDES discharge requirements and fish screen criteria of NOAA Fisheries ESA section 4 guidelines are regulatory requirements, not simply Team recommendations. Alternatives to meet those requirements should be discussed with EPA and NOAA Fisheries. Because Kooskia NFH is a Service-funded facility, upgrades and modifications to meet regulatory requirements would normally be requested and funded through the Maintenance Management System of the Service.*

29. **Comanager Comment on Recommendation KO17:** The Nez Perce Tribe supports a review of the PIT tag marking groups as part of a long-term M&E plan referenced in DW21. However, proportionately distributing tags across all raceways does not meet some ongoing M&E objectives/study designs and is not the only way to adequately represent entire population performance. It is important to the Tribe to minimize the amount marking, including PIT tagging, fish are subjected to. As such, much effort is occurring to integrate PIT tagging studies. We object to the establishment of an independent PIT tagging effort.

    Review Team Response: *The recommendation has been re-worded to more accurately reflect the Team's intent and comanager concerns.*

30. **Comanager Comment on Recommendation KO18:** The Nez Perce Tribe and Dworshak NFH Complex support a review of the CWT tag recovery program as part of a long-term M&E plan referenced in DW21. However, intensive/target tag recovery in terminal areas may not be required or support established M&E objectives or routine management decisions. Actual need for such data should be clearly established prior to recommending increasing M&E tag recovery funding requirements.

    Review Team Response: *The Review Team agrees that it is unclear whether current tag recovery efforts support any required or established Kooskia spring Chinook M&E objectives or leads to any management decision. Clearly articulated management and M&E goals and objectives should be established prior to applying CWT's and the design of sampling protocols to address those goals and objectives. It was the Team's understanding that CWT's were being used to estimate harvest both outside and within the Snake River Basin to meet comanager goals and objectives (e.g. LSRCP, US v OR, etc.) and it was unclear how the existing sampling rate is accomplishing that goal. In addition the LSRCP Office has committed substantial resources to developing and implementing a hatchery data base that can be shared over the web between co-operators. Ultimately, the purpose of tagging fish is to evaluate benefits and risks, but adequate evaluations are not possible without sufficient efforts to recover tags in terminal areas.*

Clearwater Coho

31. **Comanager Comment on Recommendation CC1:** The IDFG, the Nez Perce Tribe, and Dworshak NFH Complex agree that it would be beneficial to update or establish numerical goals for broodstock needs, harvest, and natural spawning escapement in the Clearwater River basin. These types of goals are contained in latest version of the Clearwater Subbasin Summary and Management Plan (2003), although all comanagers have not specifically agreed with these numbers

    Review Team Response: *See Review Team response to Comanager Comment #4 for Dworshak NFH steelhead. In response to these comments, the Team has inserted the Subbasin Plan harvest goals for coho salmon into the goals statement of the report for the Clearwater coho program.*

32. **Comanager Comment on Recommendation CC2:** The Nez Perce Tribe has focused on establishing a self-sustaining hatchery broodstock. This is one of the reasons we moved the release of coho smolts from the Potlatch River to Clear Creek. As a result, in 2008 we succeeded in collecting enough broodstock to provide eggs for the entire program – including the production of 550,000 smolts reared at Eagle Creek. The Dworshak NFH Complex concurs with the Nez Perce Tribe.

    Review Team Response: *The Team complements the Nez Perce Tribe for its success in initiating development of a locally-adapted coho broodstock. The understood purpose of transporting coho salmon juveniles from Eagle Creek NFH to the Clearwater River was to establish adult returns back to the Clearwater River from which a locally-adapted broodstock could be developed. Smolt-to-adult return rates for the progeny of those returning adults are*

expected to be substantially greater than the return rates of juveniles transported from lower Columbia River hatcheries. Based on recent successes, the Team has concluded that adult returns back to the Clearwater River are now sufficient to maintain a self-sustaining broodstock that can be expanded to achieve other goals. Hopefully survival and return rates of coho to the Clearwater Basin in the next several years will allow continued development and maintenance of this local broodstock.

33. **Comanager Comment on Recommendation CC4:** In 2009, the outdoor rearing will occur in Burrows ponds. Density will not be an issue outside. The indoor densities have not caused a problem thus far.

    Review Team Response: *The Team supports the use of the Burrows ponds to reduce outdoor rearing densities and suggests developing ponding schedules that would also help to reduce indoor densities or conflicts with rearing other species. When developing rearing plans, the Tribe and hatchery staff should consider the potential fish health impacts associated with rearing multiple stocks in Burrows ponds that are operated on the same reuse system. Any operational procedures that would lead to reducing densities to <0.2 D.I. in the tank room would be beneficial because high early rearing densities can contribute to disease problems (particularly coldwater disease) at later dates.*

34. **Comanager Comment on Recommendation CC5:** The Nez Perce Tribe has worked each year since 1997 to increase broodstock recovery in order to accomplish this goal of reducing dependence on out-of-basin brood sources. Since 2001, at least 280,000 of the 1.1 million release goal has been provided by adults returning to the Clearwater river. In 2008, for the first time, we have spawned 1.5 million eggs, enough to provide for both the 300,000 release from Dworshak and to provide eggs to Eagle Creek NFH for the rearing of 550,000 smolts for release in 2010. -- Additional rearing space within the Clearwater hatchery systems is not currently available to rear the 1.1 million smolts for the CCR program. Even at the Nez Perce Tribal Hatchery, without implementing Phase II construction, this goal could not currently be met. -- In order to provide rearing space at Dworshak Fish Hatchery, a complete remodel of the hatchery will be required. Such action is justifiable due to the age and condition of Dworshak and changes in water laws (Clean Water Act) and recovery and restoration goals of managers and opportunities for significant energy conservation in excess of $2-4 million annually.

    Review Team Response: *The Team strongly supports the successful implementation of the coho reintroduction program in the Clearwater Basin. The Review Team agrees that existing incubation and rearing spaces at Dworshak NFH, Kooskia NFH, and the Nez Perce Tribal Hatchery do not likely allow the Nez Perce Tribe to achieve the long-term goals of the Coho Master Plan for the Clearwater River. The Team suggests that changes made to the program's goals and objectives, including associated facility needs, be clearly articulated in appropriate revisions to the Master Plan.*

Hagerman NFH B-run Steelhead

35. **Comanager Comment on Recommendation HA1:** The IDFG, Nez Perce Tribe, and Dworshak NFH Complex agree that it would be beneficial to update or establish numerical goals for broodstock needs, harvest, and natural spawning escapement in the Salmon River basin. The Nez Perce Tribe prefer that transfer and release of Dworshak B steelhead in the Salmon River be discontinued and a local stock be developed and utilized for production.

    Review Team Response: *The Review Team agrees that comanagers should establish agreed to sets of goals for the upper Salmon River Subbasin so that the benefits vs. risks of the Hagerman NFH B-run steelhead program can be better assessed relative to established comanager goals. The Team believes these goals and associated objectives for achieving them must be part of the HGMPs and other planning documents. Proposed time frames for achieving each of those goals need to be specified also. The Team also believes that the continued transfer of B-run steelhead from Dworshak NFH into the Salmon River should be discontinued and a localized B-run stock developed if it can be operated successfully as a segregated program within the basin.*

36. **Comanager Comment on Recommendations HA9 and HA38:** While IDFG agrees that long distance smolt hauling may affect smolt survival, we do not see an indication of hauling induced differential survival (based on estimated survival form release to Lower Granite Dam with the use of PIT tags) of fish released from HNFH and other hatcheries, or fish released from HNFH that were hauled over Galena [Pass] relative to those hauled to the Little Salmon River. While steelhead released into the Little Salmon River do on average (2001-2008) have a higher estimated survival to Lower Granite dam than those released at Sawtooth Hatchery (80% compared to 72% respectively), the difference is not beyond what we would expect due to the shorter migration distance associated with the Little Salmon River release. Relative to other hatcheries, average survival rates are similar. For the migration years 2000-2008 average estimated survival rates for A-run steelhead released from Hagerman, Niagara and Magic Valley fish hatcheries were 72%, 77%, and 75% respectively. Over the same time period estimated survival of steelhead released from Clearwater Fish Hatchery averaged 72%.

    Review Team Response: *The Review Team was primarily concerned about the immediate mortalities associated with trucking over long distances. The relatively high survival rates to Lower Granite Dam for A-run steelhead suggests that transport mortality 24-48 hours after release is not a major factor affecting smolt-to-adult return rates. We have modified our recommendation to endorse the continued PIT tagging of all release groups to assess downstream migration survival.*

37. **Comanager Comment on Recommendation HA18:** (Nez Perce Tribe response) – We agree with the concept that increased coordination/communication would be beneficial. However, a fair amount of coordination does occur through annual discussion of M&E, in-hatchery and post-release, currently occurs during the Salmon River Annual Operating Plan meetings/document. This is a LSRCP lead process. In addition, an annual LSRCP cooperators meeting is held in which M&E results are commonly presented. Recommendation should be; Continue current comanager coordination and consider options for more collaboration.

Review Team Response: *The Review Team agrees that the existing coordination provides the basis for implementing the current steelhead program at Hagerman NFH. However, given the complexity of the existing program, the number of comanagers directly involved in various components of the program, and the comments received by the Review Team, it is essential that coordination be continued and/or improved to meet comanagers needs. This includes the need to quantify the presumed benefits (and risks) of the B-run steelhead program at Hagerman NFH and, more broadly, for the Salmon River. The report has been modified to reflect the comanager recommendation.*

38. **Comanager Comment on Recommendation HA21:** the Nez Perce Tribe supports a review of the CWT marking groups as part of a long-term M&E plan referenced in DW21. However, proportionately distributing tags across all raceways does not meet some ongoing M&E objectives/study designs and is not the only way to adequately represent entire population performance.

    Review Team Response: *The recommendation has been re-worded to more accurately reflect the team's intent and comanager concerns.*

39. **Comanager Comment on Recommendation HA22a:** IDFG supports increased coded-wire tagging and sampling efforts for estimates of stock specific contributions to harvest. However, in many cases increasing tagging and sampling rates in fisheries, especially in some spatial and temporal strata will not result in enough tag recoveries to make meaningful stock contribution estimates and is not cost effective. IDFG supports development of genetics based full parental analysis of steelhead returns as an alternative to the CWT technology for harvest stock assignment.
    Comanager Comment on Recommendation HA22b: IDFG supports Recommendation HA22b. We implemented representative PIT tagging of all brood year 2007 production a LSRCP A and B-run hatcheries and at all Idaho Power hatcheries (except Niagara Springs production which will for included for BY 2008). Approximately 140,000 PIT tags will be applied to BY 2008 production. Tagging at these levels will enable managers to estimate smolt survival through the hydro system and adult returns by hatchery/run/release site

    Review Team Response: *The Review Team has modified Recommendation HA22a and HA22b in response to comments from IDFG.*

Hagerman NFH A-run Steelhead

40. **Comanager Comment on Recommendations HA29 *(renumbered as HA27)* and HA35 *(renumbered as HA33)*:** IDFG Response: We do not feel that rearing individual stocks at more than one facility creates undue logistical constraints but rather maintains a safety net in the event of catastrophic loss. The Nez Perce Tribe does not have an objection to the current rearing strategy but suggests it may be helpful to evaluate the Recommendation HA29 [HA27] option to determine if there are cost savings or other benefits.

Review Team Response: *The Review Team has concluded that the logistic benefits of rearing specific stocks at specific hatcheries (e.g., all Sawtooth A-run fish at Hagerman NFH, all B-run fish at Magic Valley Hatchery) substantially exceeds the risks of rearing and transporting multiple groups of fish among multiple facilities. At the present time, Hagerman NFH rears all the fish released at Sawtooth FH but, in the past, did not receive eggs from all egg takes at that facility. Reducing the number of stocks reared at a particular facility confers a net benefit by simplifying culture operations and reducing risks associated with disease and human error. The recommended alternative to rearing all Sawtooth A-run steelhead at Hagerman NFH, consistent with current rearing strategies, would be to transfer one-third of the eyed eggs from every full-sibling family at Sawtooth FH to Magic Valley FH (Recommendation HA29), as opposed to transferring all the eyed eggs from one-third of the spawn takes. This latter alternative would add considerable more labor to the operations at Sawtooth FH, further increasing opportunities for human error. The Team concluded that the simplest way to reduce all these risks is to rear all Sawtooth A-run steelhead at Hagerman NFH. In addition, catastrophic losses of an entire brood year have – to the Review Team's knowledge – not occurred at Hagerman NFH. The one population that should potentially be reared at multiple facilities, "East Fork Naturals" which represents an ESA-listed "conservation" stock, is currently reared at one facility whereas stocks that are not ESA listed (Sawtooth A-run, Pahsimeroi A-run, Dworshak B-run) are currently reared at multiple facilities. The Review Team does not agree with those priorities.*

41. **Comanager Comment on Recommendation HA30** ***(renumbered as HA28)*****:** IDFG response - Keeping in mind that the Sawtooth-A, Pahsimeroi-A and Oxbow-A stocks were all founded from the Hells Canyon (Snake River) ancestral stock, IDFG currently manages to maintain separate Sawtooth A, Pahsimeroi A and Oxbow-A stocks. Broodstock collection for the upper Salmon River Sawtooth-A and Pahsimeroi-A programs come exclusively from adults collected at Sawtooth and Pahsimeroi Fish Hatcheries. Since 2000 all fish released from Sawtooth Fish Hatchery have been Sawtooth-A stock. Additionally, between 1997 and 2000, the Pahsimeroi-A component represented less than 10% of the Sawtooth Fish Hatchery releases. Sawtooth-A stock has never been used to supplement the releases at Pahsimeroi Fish Hatchery. Since 1994, fish released at Hells Canyon Dam have come exclusively from adults trapped at Hells Canyon Dam with the exception of one year in which Sawtooth-A stock was used to supplement the release.

    Review Team Response: *The Team supports IDFG's current strategy of managing Oxbow, Pahsimeroi, and Sawtooth populations as three distinct stocks to promote local adaptations, and maximize stock viabilities and homing fidelity to the respective geographic areas. This strategy is expected – in the long run - to maximize smolt-to-adult return rates and potential contributions to fisheries. One intent of Recommendation HA28 was to emphasize the need to manage hatchery populations for maximum viability. If backfilling occurs in a particular year to meet a specific harvest goal, then the transferred fish should be differentially marked and excluded from the local broodstock as returning adults.*

42. **Comanager Comment on Recommendation HA32** ***(renumbered as HA30)*** **(This comment also relates to Recommendations HA33 [HA31] and HA39 [HA37]):** *(IDFG comment)* The only offsite releases in the upper Salmon River (Yankee Fork Salmon River) of Sawtooth-A steelhead released from Hagerman National Fish Hatchery (HNFH) are those established as part of negotiations through the U.S. vs. Oregon process. These releases are in Yankee Fork,

not in the mainstem Salmon River. It is likely that these tributary releases return to the some fidelity to the Yankee Fork. Furthermore, the Shoshone/Bannock Tribe has included the development of localized broodstock for both Chinook and steelhead in their proposed list of fish and wildlife projects.

(Nez Perce Tribe comment) As stated in the IDFG response to HA32 [HA30], there is only one offsite release of Sawtooth-A steelhead in the upper Salmon River released from HNFH and it is negotiated through the U.S. vs. Oregon process. IDFG acknowledges some of the potential biological risks that off-site hatchery releases pose to natural populations. Nevertheless, IDFG also views off-site releases as a potential management tool for hatchery releases designed to mitigate for lost fishing opportunities. We are opposed to taking the option for well designed off-site releases off the table.

Review Team Response: *In principle, the Review Team concurs with IDFG's comments and has clarified Issue and Recommendation HA30. However, according to the Annual Operations Plan (AOP) for 2008, Sawtooth A-run steelhead reared at the other LSRCP facility, Magic Valley FH, may be released at one of three mainstem sites on the Salmon River downstream from the East Fork. If all Sawtooth A-run steelhead are reared at Hagerman NFH (as per Recommendation HA27), then release of those fish should be restricted to areas of the Salmon River upstream of the confluence of the East Fork, as per Recommendation HA30. This latter recommendation is intended to be consistent with the Team's other recommendations and NOAA Fisheries' preliminary conservation strategies for ESA listed salmon and steelhead in the upper Salmon River; that is, stocks propagated within the geographic area of a particular "demographically independent population" should not be released outside that geographic area. Recommendations HA27, HA28, HA29, and HA30 are intended collectively to reduce both biological risks to natural populations and risks associated with human error by (a) simplifying hatchery management strategies and (b) establishing one-to-one correspondences among hatchery broodstock populations (Sawtooth or Pahsimeroi), rearing location (Hagerman NFH and Magic Valley FH), and release sites in the Salmon River basin. These recommendations emphasize the need to "manage populations" for maximum viability as opposed to the historical practice of "managing facilities" for maximum capacity.*

43. Comanager Comment on Recommendation HA33 *(renumbered as HA31).*: As stated in the IDFG response to HA32 [HA30], there is only one offsite release of Sawtooth-A steelhead in the upper Salmon River released from HNFH and it is negotiated through the US v OR process.

Review Team Response: *The Review Team's Recommendations HA30 and HA31 assume that Recommendation HA27 may be implemented where all Sawtooth A-run steelhead would be reared at Hagerman NFH. The Team was concerned that management pressures to release fish offsite during poor-return years could reduce the number of smolts released at Sawtooth FH, thus compromising adult returns to Sawtooth FH in subsequent years. Consequently, the Team is recommending the establishment of Sawtooth FH as the first priority for release before additional smolts are outplanted elsewhere in the Salmon River basin. The intent of this recommendation is to maximize the likelihood of meeting broodstock collection goals at Sawtooth FH consistent with the goal of maintaining maximum viability of that population.*

44. **Comanager Comment on Recommendation HA34 *(renumbered as HA32)*:** All adipose-intact releases from HNFH resulted from negotiations through the US v OR process. Under the current U.S. vs. Oregon agreement: 1) 440,000 Sawtooth-A steelhead are to be released into Yankee Fork of which 220,000 will have adipose fins intact and 2) up to 650,000 Pahsimeroi-A and Oxbow –A steelhead will be released into the Little Salmon River and are to be 100% adipose fin clipped.

    Review Team Response: *The Review Team does not disagree with the intent of US v OR or other comanager agreements, but the Team does believe that all hatchery-origin fish should be distinguishable with physical marks, tags, or biomarkers (e.g., otolith marks) that allow hatchery-origin fish to be distinguished from natural-origin fish for monitoring and evaluation purposes – not only in the terminal harvest areas – but also in other areas where hatchery fish may stray. From strictly a monitoring and evaluation perspective, the ability to distinguish natural-origin and hatchery-origin fish allows the benefits and risks of hatchery programs to be assessed.*

45. **Comanager Comment on Recommendation HA36 *(renumbered as HA34)*:** IDFG agrees with the reviewers that CWT mark groups should represent the entire release. IDFG has already initiated a process to reevaluate marking strategies and will be working with Service and tribal cooperators on this endeavor. The Nez Perce Tribe supports a review of the CWT marking groups as part of a long-term M&E plan referenced in [Recommendation] DW21. However, proportionately distributing tags across all raceways does not meet some ongoing M&E objectives/study designs and is not the only way to adequately represent entire population performance.

    Review Team Response: *Recommendation HA34 has been re-worded to more accurately reflect the team's intent and comanager concerns.*

46. **Comanager Comment on Recommendation HA37 *(deleted and consolidated into Recommendation HA34)*:** Steelhead with CWT released from HNFH are given unique codes relative to broodstock origin, release site, and rearing hatchery. These are protocols established by the regional CWT marking committee.

    Review Team Response: *The Team has modified our recommendations by deleting Issue HA37 and expanding Issue and Recommendation HA34.*

Shoshone-Bannock Tribes[5]

In addition to the comments below, the Review Team received several editorial comments and suggestions to the initial draft of the Review Team's report (Appendix D), and those suggestions were used to clarify or correct the text of the draft report

1. After reviewing the recommendations for the Hagerman B-run steelhead program, the Tribes recommend an alternative to the current program that incorporates a combination of alternative one, two, and three. Under this change, we propose to continue with the current program while developing a localized broodstock in the East Fork Salmon River with the potential of integrating native B-run steelhead from the South and Middle Forks. This modified alternative would continue to provide fishing opportunities for B-run steelhead, eventually eliminate the need for Dworshak National Fish Hatchery broodstock, increase survival over time, reduce potential straying rates, and provide a mechanism for conservation of native steelhead stocks. In the interim, there needs to be increased monitor and evaluation activities to quantify B-run steelhead harvest benefits relative to A-run steelhead.

   Review Team Response: *The Review Team recommended termination of the rearing of B-run steelhead at Hagerman NFH because of (a) poor success of rearing those fish at Hagerman NFH and (b) the high risk to other stocks resulting from the continued transfer and outplanting of Dworshak B-run steelhead in the upper Salmon River. The Team believes replacement of the B-run program with an expansion of the A-run program at Hagerman NFH will increase harvest benefits in the Salmon River while reducing culture risks at Hagerman NFH. The Team is currently reviewing the B-run steelhead program at Magic Valley FH and will consider the tribe's comments, along with those of other comanagers, in those evaluations. In particular, the Team is evaluating the pros and cons of developing a local, segregated broodstock program for B-run steelhead at a site in the upper Salmon River where sufficient numbers of adult broodstock can be collected annually while minimizing risks to other populations in the area.*

2. **Regarding HA18:** The Tribes need to be included in the monitoring and evaluation of B-run steelhead as well as included on the Review Team. The states, tribes, and feds need to mutually develop a clear M&E plan and roles.

   Review Team Response: *The Team agrees that the appropriate tribes need to be involved with M&E and production planning. Participation with the Hagerman NFH Hatchery Evaluation Team (HET), which is responsible for planning and coordinating on and off-station M&E, is one way to be involved with M&E and production planning. The Hatchery Review Team (Review Team) engages comanagers in the review process itself through direct meetings, including opportunities for comanagers to provide written comments for public review, as presented here in Appendix C and in Appendix D.*

[5] *Written comments provided November 14, 2008 by Alonzo A. Coby, Chairman, Fort Hall Business Council, Shoshone-Bannock Tribes, Fort Hall, Idaho.*

3. **Regarding HA20**: The states, feds, and tribes need to work together to develop protocols for estimating and monitoring the abundance and productivity of natural populations of steelhead in the Salmon River basin. The Shoshone-Bannock Tribes are already implementing DNA parentage analyses to determine the effects from hatchery steelhead in other tributaries and could take a lead role in development of a proper M&E plan.

   Review Team Response: *The Review Team was particularly concerned about the natural spawning of non-native Dworshak B-run steelhead in natural production areas of the Salmon River where native steelhead or rainbow trout populations may occur (e.g., E.F. Salmon River). The Team agrees that the work initiated by the Shoshone-Bannock Tribes will be an important contribution to understanding the genetic contribution of hatchery-origin steelhead to natural reproduction.*

4. **Regarding HA21:** The states, feds, and tribes need to work together on a proper M&E plan with appropriate tagging representation for each group released in the Salmon River. The IDFG should not solely develop the mark plan without input from other comanagers.

   Review Team Response: *The Review Team agrees and has modified the report to more clearly express this recommendation.*

5. **Regarding HA34:** Currently for Yankee Fork, 140,000 steelhead are unclipped and 100,000 are clipped. Visually there is a return to Yankee Fork of 7:1 unclipped to clipped due to less susceptibility to be harvested in downriver fisheries. A higher proportion of the 140,000 should be PIT and CWT tagged to collect necessary M&E information. The Tribes would request more funding to properly collect and analyze data.

   Review Team Response: *The Review Team believes that all hatchery-origin fish should be marked or tagged to allow proper monitoring, evaluation, and broodstock management. Consequently, the Team believes that all unclipped hatchery-origin steelhead released into the Yankee Fork should be given a wire tag (or other appropriate tag). In addition, as described in Comment #3 of the Shoshone-Bannock Tribes, DNA markers can provide a non-invasive method of identifying hatchery fish when immediate identification in the field is not necessary.*

6. **Regarding HA38:** The Tribes could easily develop and perform post-release survival studies for the Yankee Fork as smolts are released into two Pond Series instead of the mainstem.

   Review Team Response: *The Review Team concurs that this is the type of information is needed to continually evaluate the effectiveness of this hatchery program. We encourage the Shoshone-Bannock Tribes to coordinate this research through the Hagerman NFH Hatchery Evaluation Team.*

7. **Regarding HA39:** With additional funding the Tribes would be able to fully monitor harvest to determine benefits in Yankee Fork, Valley Creek, and Slate Creek. With the addition of a permanent weir in the Yankee Fork, quantifiable numbers of returning adults could easily be collected through trapping.

Review Team Response: *The Review Team agrees that construction of a permanent weir in the Yankee Fork would facilitate evaluation of the benefits and risks of outplanting steelhead. In addition, a weir would provide additional research opportunities and allow potential development of a local broodstock for steelhead.*

Army Corps of Engineers[6]

Review Team Note: *Several of the comments provided by the Army Corps of Engineers dealt with policy issues between the Corps and the Service and are not directly applicable to the scientific review conducted by the Hatchery Review Team (Appendix D). Those policy issues are being addressed in other forums and not addressed here in Appendix C.*

General Comments:

1. **Corps Comment:** "The Dworshak Fish Hatchery (Hatchery) was constructed by the U.S. Army Corps of Engineers (Corps) to mitigate impacts to steelhead and rainbow trout that resulted from Dworshak Dam construction. The actual hatchery sizing for mitigation was to rear the offspring from the average of the adult return to the dam site from 1967 through 1971.

   The Corps owns and provides funding to the U.S. Fish and Wildlife Service (Service) to operate and maintain the Hatchery. However, the Corps was not consulted with during the development of this draft report.

   Please place the two above paragraphs at the beginning of both the "Summary" and "Introduction" sections.

   Review Team Response: *The Team has included information from the above comments into the report as requested. The Team also notes that the Corps was consulted during the conduct of this review and the completion of this report. The comments received from the Corps are one result of those discussions and consultation.*

Specific Technical Comments:

2. **Corps Comment:** A brief history for steelhead mitigation and releasing of Dworshak steelhead is needed. This section should include the following: Up to about 1984 or 1985 all steelhead were released directly from the hatchery. Then due to improved returns, congestion problems along the lower Clearwater River from the increased sport fishery caused tremendous traffic and other congestion problems. Harvest success also dropped due to harassment of the fish. This all resulted in many more fish returning to the hatchery than required for hatchery uses, and problems with what to do with all of the fish. A task force was formed in 1983 to review the problems with final recommendations to release about half of the hatchery steelhead production upstream of the hatchery in the Mainstem areas of the Clearwater River. These outplants have continued and are considered mitigation releases as long as supplementation activities are not included. Releasing fish in Lolo Creek is a supplementation activity and according to the Corps authorizations and MOU with the Service, should be funded by the Service.

   Review Team Response: *The Team has made the appropriate edits to the report in the Program Summary section for Dworshak NFH steelhead. The Team understands mitigation*

[6] *Written comments provided January 5, 2009 by Tim Dykstra, Fisheries Biologist, US Army Corps of Engineers, Walla Walla District, WA.*

via hatcheries as an activity that releases a desired number of juvenile fish or results in the return of a desired number of adult fish back to a target area to replace natural-origin fish impacted by development projects. Mitigation typically does not dictate whether those fish will be released or returned explicitly for harvest, natural spawning, or broodstock.

3. **Corps Comment:** Page 17. Should add a footnote that coho production is not an authorized program at Dworshak Fish Hatchery. Same comment for coho write-up on page 28.

   Review Team Response: *The Review Team agrees that coho production is not associated with Dworshak Dam fishery mitigation which is funded by the Corps. Coho mitigation is within the scope of authorization of other fishery mitigation programs supported by BPA and NOAA Fisheries. These clarifications have been added to the report.*

4. **Corps Comment:** Page 42. Should add U.S. Army Corps of Engineers to the title in last paragraph. Change second sentence to "The hatchery was constructed by the Corps of Engineers in 1969". Should specify that the Corps funds only steelhead and rainbow trout mitigation for Dworshak Dam, not all activities. Also delete direct funding from BPA as irrelevant.

   Review Team Response: *The Team has made the appropriate edits to the report.*

5. **Corps Comment:** Page 43. Do not believe Kooskia Hatchery is a LSRCP facility as stated in title.

   Review Team Response: *The Team has made the stated corrections to the report.*

6. **Corps Comment:** Page 45. Dworshak Fish Hatchery does not have established adult return goals commensurate with LSRCP mitigation goals. Any adult return estimates should be noted that they are what the Service calculated should return from the present hatchery production. Actual hatchery sizing for mitigation was to rear the offspring from the average of the adult return to the dam site from 1967 through 1971.

   Review Team Response: *The Team understands that the Corps did not establish a numeric adult return goal for Dworshak Dam mitigation. Service staff have used a goal of 20,000 adult steelhead back to the Clearwater River, and this Service goal was the information provided to the Team. The Team recommends the establishment of numeric adult return goals with identification of harvest, broodstock, and escapement components (see recommendation DW1).*

7. **Corps Comment:** Page 53, second bullet under Release and Outmigration. Should note that these fish are released as supplementation, not mitigation.

   Review Team Response: *The Team has noted that unclipped (unmarked) fish released into Newsome Creek and American River are for supplementation. (See Team response to Corps Comment #2 regarding the Team's understanding of "mitigation" as an activity.*

8. **Corps Comment:** Page 54, bottom area of page. States there are 84 Burrows ponds and 40 raceways. If steelhead are reared in the Burrows ponds, and Chinook are reared in 30 raceways, what are the other 10 raceways used for?

   Review Team Response: *The other 10 raceways at Dworshak NFH are modified adult holding ponds and are currently used to rear coho salmon.*

9. **Corps Comment:** Page 58, first bullet. Second sentence should be rewritten to clarify that these are adult returns from hatchery releases, not actual percent of the steelhead released from the hatchery.

   Review Team Response: *The Team has made the stated corrections to the report.*

10. **Corps Comment:** Page 62, Issue DW1. Not really correct. The 20,000 fish to return to the Clearwater Basin is what Bill Miller [former complex manager at Dworshak NFH] calculated is a reasonable number, but is not an official "mitigation goal".

    Review Team Response: *See response to Corps Comment # 6.*

11. **Corps Comment:** Page 67. Recommendation DW12. Installing a gravity feed pipeline will not save any dollars in energy. It is actually a net loss in energy as running the water through the turbine units at the dam and then pumping the water at the hatchery generates more power than reclaiming lost power production with a turbine on the pipeline. Adding a gravity feed water supply may be the best option for the hatchery, but will be very expensive. Recent cost estimates as discussed by the Service in a recent Columbia Basin Bulletin article are inaccurate.

    Review Team Response: *The recommendation to install gravity feed water from Dworshak Dam is based upon fish health concerns associated with pumping water from the North Fork Clearwater River below the dam where steelhead have access and could transmit disease into the hatchery's water supply. All assumptions regarding cost savings of a gravity-feed pipeline versus pumping are beyond the scope of this review and have been removed from this recommendation.*

12. **Corps Comment:** Page 72. Alternatives to Current Program. First paragraph should note that the alternatives are Service suggestions on various alternatives for the hatcheries but may not be in line with facility authorizations. Some alternatives may require the Service to fund them.

    Review Team Response: *The potential "Alternatives" were developed by the Team for the specific purpose of this review. Implementation of any specific alternative would require consultation and concurrence among comanagers and cooperators. In some previous reviews, the Team has concluded that comanager goals within a watershed cannot be met simply by implementing program-specific recommendations. In other reviews, the Team may have concluded that the risks of a particular program outweigh the risks and concluded that an*

alternative program can better provide the benefits desired by comanagers. Some alternatives, if implemented, may require modifications to various agreements and authorizations as noted by the Corps in their comment. Some alternatives also address LSRCP programs that, if implemented, may require modifications to present funding levels.

Stakeholder Comments and Responses

Stakeholder Forum[7]

1. **Will there be new funds available to implement the recommendations proposed in this report?**

   Review Team Response: *This hatchery review process by itself does not bring new money to the table. The process is primarily a biological assessment that identifies issues and provides recommendations that can act as a reference for funding resources. The recommendations made by the Hatchery Review Team fall into three categories: (1) recommendations that require no new monetary resources; (2) those that require some money and some discussion with comanagers; and (3) those that require significant new money, planning and/or longer discussions with comanagers to implement. The Team anticipates that the Service will use the Team's recommendations to prioritize funding requests after those recommendations are accepted for implementation.*

2. **When will the Service begin the implementing phase associated with the Team's recommendations? How will implementation be associated with the development of recovery plans and addressing the recommendations put forth by the Columbia River Hatchery Scientific Review Group. Is there a formalized strategy?**

   Review Team Response: *These decisions will be made by the Service's supervisory staff in consultation with the comanagers since most of the recommendations involve group consultation (i.e. Idaho Department of Fish and Game, Nez Perce Tribe, Shoshone-Bannock Tribes, Army Corps of Engineers, and U.S. Fish and Wildlife Service) and existing agreements such as US v OR. However, we do understand the Service is interested in incorporating recommendations from this report in the Hatchery Genetic Management Plans (HGMPs) to be developed as part of the Federal Columbia River Power System Biological Opinion. NOAA Fisheries requires the HGMPs by February 2010. The Team also expects that recommendations that would be inexpensive to implement and do not require group consultation will likely be implemented as soon as practical. A Regional Implementation Policy has been adopted by the Service and can be viewed on the Review Team's project website.*

3. **Are other hatcheries in Idaho such as Rapid River Fish Hatchery (FH) undergoing review?**

   Review Team Response: *The Service is not reviewing Rapid River FH since the facility is not federally operated, nor is it federally funded by the Lower Snake River Compensation Plan. However, the Service is sharing the scientific methods and analytical tools applied to this*

[7] *These are excerpts from comments provided by attendees of Stakeholder Forums held at the Red Lion Inn, Lewiston, Idaho on September 29, 2008 and Marriott Spring Hill Suites Boise Park Center, Boise, Idaho on September 30, 2008. Responses were provided by Review Team members who attended the meeting and were clarified in subsequent Review Team meetings.*

review process with the Idaho Department of Fish and Game (IDFG) and Idaho Power Company who manage, operate, and fund Rapid River FH as a mitigation responsibility. Rapid River FH is also being reviewed by the Columbia River Hatchery Scientific Review Group (HSRG) who will provide programmatic recommendations that complement the more detailed operational reviews of the Service.

4. **Are there risks associated with utilizing Kooskia NFH spring Chinook for rebuilding the natural-origin Clearwater River spring Chinook population in Clear Creek?**

   Review Team Response: *Since wild spring Chinook were extirpated from the Clearwater River basin as a result of the construction of Lewiston Dam, the risks to wild populations are reduced. Any natural reproduction currently occurring in the Clearwater River basin (i.e. Lolo Creek, and in the Lochsa, Selway, and South Fork Clearwater rivers) are considered a result of efforts to reintroduce spring Chinook with hatchery stock. The Team recommended that hatchery-origin Kooskia NFH spring Chinook be differentially marked so that the amount of hatchery influence on the naturally spawning component of the population can be controlled as the natural population rebuilds. Marking also allows appropriate genetic management of the broodstock.*

5. **My understanding is that the practice of releasing hatchery fish over a very short period of time can negatively impact wild stocks through competition and the attraction of predators.**

   Review Team Response: *The Review Team has concluded that as long as hatchery salmon and steelhead are reared to the smolt stage, they will generally migrate quickly out of individual watersheds, minimizing ecological impacts on wild populations, regardless of whether they are released volitionally (the fish are allowed to leave the hatchery at there own volition) or forced out all at once. In terms of smolt-to-adult survival and straying of hatchery fish, most research the Team has reviewed indicates that there is very little advantage to releasing fish volitionally compared to a forced release.*

6. **Since upstream passage of adult steelhead into the North Fork Clearwater River is blocked by Dworshak Dam, has the Review Team considered planting B-run steelhead in another tributary to rebuild a natural component of the B-run steelhead population?**

   Review Team Response: *In our report, the Review Team recommends investigating the potential for developing a naturally spawning population or component of North Fork Clearwater B-run steelhead (i.e., a naturally spawning component of the existing hatchery population) somewhere in the Clearwater Basin as a long-term goal for the Dworshak NFH B-run steelhead program because: (a) virtually all historic spawning habitat for this unique stock in the North Fork Clearwater River is no longer accessible; and (b) the risk of domestication from continuing to use only hatchery-origin adult steelhead for broodstock is inconsistent with the goal of preserving the natural population genetic characteristics of the population. The Team's recommendations on this issue are focused primarily on the need to include natural-origin fish in the broodstock on a regular basis to counterbalance the long-term effects of domestication via artificial propagation (See the Dworshak NFH B-run*

steelhead program recommendation DW7 and the program's recommended alternative discussion in the body of the report).

7. **Dworshak NFH B-run steelhead from the Clearwater Basin that are transported and released into the Salmon River Basin pose a genetic risk to listed natural populations in the upper Salmon River. If a locally adapted B-run stock is developed in the Salmon River Basin, will that locally adapted stock still pose a risk to the natural populations?**

   Review Team Response: *Yes, the locally adapted stock could pose similar risks to natural populations if the fish are direct stream released or outplanted in areas where they cannot be recaptured when they return as adults. The benefits of establishing a locally adapted stock are to increase smolt-to-adult survivals and reduce the continuous importation of an out-of-basin stock that poses other risks (e.g.,. transferring diseases) to steelhead populations in the Salmon River Basin. Along with acclimation and adult recapture capabilities, utilizing a locally adapted stock also reduces the genetic and ecological risks to the natural Salmon River steelhead populations associated with straying. Development and propagation of a locally-adapted B-run hatchery population in the Salmon River is expected to both increase benefits via increased efficiency and productivity while, at the same time, reducing risks via higher homing fidelity and control of returning adults.*

8. **How are the Dworshak NFH B-run steelhead alternatives that discuss rearing only one stock at each facility of value (i.e. B-run steelhead or spring Chinook at Dworshak NFH or Clearwater Fish Hatchery)?**

   Review Team Response: *From a fish culture standpoint, the Team determined that rearing each stock at one facility would simplify operations, potentially increase benefits, and reduce risks associated with culture and transportation. For example, rearing B-run steelhead exclusively at Clearwater Fish Hatchery would likely prevent epizootic losses of steelhead juveniles by rearing the fish on a pathogen free water supply (water from above Dworshak Reservoir where no anadromous fish occur) versus the current water supply for Dworshak NFH, the North Fork Clearwater River at the hatchery which contains IHN virus and other pathogens transmitted by adult salmon and steelhead. Those alternatives also reduce the risk of cross-contamination of pathogens (e.g. IHNV) between species and between the two hatcheries. However, the Team concluded that the benefits of rearing one species separately at each facility were not sufficient to warrant recommendation of either of those two alternatives.*

9. **Is the Review Team recommending a time-period for eliminating the Dworshak NFH B-run steelhead releases into the Salmon River or will that be determined at a later date?**

   Review Team Response: *The potential termination of Dworshak NFH B-run steelhead releases into the Salmon River will be determined through the implementation process, which will include discussions and formal consultations with comanagers. However, those discussions do not imply that comanagers should defer collating or collecting data that may be desired or necessary as part of the discussions necessary for implementation of the Team's recommendations.*

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The mission of the U.S. Fish and Wildlife Service is working with others to conserve, protect and enhance fish, wildlife, plants and their habitats for the continuing benefit of the American people.

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